

## CLAIMS

What is claimed is:

- 1 1. A method of preparing results from predicting the ability of an existing line to  
2 support high-speed access comprising the steps of:  
3 receiving the results of line testing for high speed access from a test system; and  
4 binning the test results into one of at least three categories, wherein a first of said  
5 at least three categories indicates the selected line cannot support high speed access,  
6 wherein a second of said at least three categories indicates the selected line can support  
7 high speed access, and wherein a third of said at least three categories indicates the  
8 selected line cannot currently support high speed access.
- 1 2. The method of claim 1 wherein said step of binning the test results further  
2 comprises a fourth category, wherein said fourth category indicates the characteristics of  
3 the selected line fall outside the area of coverage of the system.
- 1 3. The method of claim 1 wherein said step of receiving the results of line testing  
2 comprises receiving the results of line testing for ISDN access.
- 1 4. The method of claim 1 wherein said step of receiving the results of line testing  
2 comprises receiving the results of line testing for xDSL access.
- 1 5. The method of claim 4 wherein said step of receiving the results of line testing for  
2 xDSL access comprises receiving the results of line testing for ADSL access.
- 1 6. The method of claim 5 wherein said step of receiving the results of line testing for  
2 ADSL access comprises receiving the results of line testing for at least one of G.dmt  
3 access and G.lite access.
- 1 7. The method of claim 1 further comprising the step of color-coding each of said  
2 categories, wherein each category has a respective color.

1 8. The method of claim 1 wherein said step of binning the test results further  
2 comprises said third of at least three categories would be able to support high speed  
3 access upon removal of an impediment on said selected line.

1 9. The method of claim 8 wherein said impediment is selected from the group  
2 consisting of a load coil and a bridged tap.

1 10. The method of claim 1 further comprising the step of billing for said selected line  
2 based on the date rate supported by said selected line.

1 11. The method of claim 7 wherein said step of color-coding comprises coding said  
2 first of said at least three categories red, said second of said at least three categories green  
3 and said third of said at least three categories yellow.

1 12. The method of claim 2 wherein said step of color-coding comprises coding said  
2 fourth category gray.

1 13. The method of claim 1 further comprising the initial step of testing a line.

1 14. The method of claim 13 wherein said step of testing a line comprises the steps of:  
2 driving said line with a signal;  
3 measuring said line;  
4 estimating characteristics of said line from the results of said measuring said line;  
5 and  
6 predicting a data rate supportable by said line from said line characteristics.

1 15. The method of claim 14 wherein said step of estimating characteristics of said line  
2 include at least one of:  
3 estimating an insertion loss of said line;  
4 estimating a phase imbalance of said line;  
5 estimating a length of said line;

6 estimating a gauge of said line;  
7 determining the presence of gauge changes of said line;  
8 determining the presence of a bridged tap on said line;  
9 determining the presence of a load coil on said line; and  
10 determining the presence of other path elements on said line.

1 16. The method of claim 15 wherein said step of determining the presence of other  
2 path elements includes at least one of:  
3 determining the presence of a splitter;  
4 determining the presence of a filter; and  
5 determining the presence of a termination.

1 17. The method of claim 13 further comprising the step of predicting the  
2 dependability of said line testing.

1 18. The method of claim 13 further comprising the step of predicting the coverage of  
2 said line testing.

1 19. A computer program product for preparing results from predicting the ability of  
2 an existing line to support high speed access, the computer program product comprising a  
3 computer usable medium having computer readable code thereon, including program  
4 code comprising:

5 instructions for causing a test unit to receive the results of line testing for high  
6 speed access; and

7 instructions for causing said test unit to bin the results into one of at least three  
8 categories, wherein a first of said at least three categories indicates the selected line  
9 cannot support high speed access, wherein a second of said at least three categories  
10 indicates the selected line can support high speed access, and wherein a third of said at  
11 least three categories indicates the selected line cannot currently support high speed  
12 access.

1 20. The computer program product of claim 19 further comprising instructions for  
2 causing said test unit to bin the test results into a fourth category, said fourth category  
3 indicating the characteristics of the selected line fall outside the area of coverage of the  
4 system.

1 21. The computer program product of claim 19 wherein said high-speed access  
2 comprises ISDN access.

1 22. The computer program product of claim 19 wherein said high-speed access  
2 comprises xDSL access.

1 23. The computer program product of claim 22 wherein said xDSL access comprises  
2 ADSL access.

1 24. The computer program product of claim 23 wherein said ADSL access comprises  
2 at least one of G.lite access and G.dmt access.

1 25. The computer program product of claim 19 further comprising instructions for  
2 color-coding each of said categories, wherein each category has a respective color.

1 26. The computer program product of claim 19 wherein said third of at least three  
2 categories could support high speed access upon removal of an impediment on said  
3 selected line.

1 27. The computer program product of claim 26 wherein said impediment is selected  
2 from the group consisting of a load coil and a bridged tap.

1 28. The computer program product of claim 19 further comprising instructions for  
2 billing for said selected line based on the data rate supported by said selected line.

1 29. The computer program product of claim 19 wherein said first of said at least three  
2 categories is color-coded red, said second of said at least three categories is color coded  
3 green and said third of said at least three categories is color-coded yellow.

1 30. The computer program product of claim 20 wherein said fourth category is color-  
2 coded gray.

1 31. The computer program product of claim 19 further comprising instructions for  
2 causing a test unit to test a line.

1 32. The computer program product of claim 31 wherein said instructions for causing a  
2 test unit to test a line includes instructions for causing a test unit to perform at least one  
3 of:

4 driving said line with a signal;  
5 measuring said line;  
6 estimating characteristics of said line from the results of said measuring said line;  
7 and  
8 predicting a data rate supportable by said line from said line characteristics.

1 33. The computer program product of claim 32 wherein said instructions for  
2 estimating characteristics of said line include instructions to perform at least one of:

3 estimating an insertion loss of said line;  
4 estimating a phase imbalance of said line;  
5 estimating a length of said line;  
6 estimating a gauge of said line;  
7 determining the presence of gauge changes of said line;  
8 determining the presence of a bridged tap on said line;  
9 determining the presence of a load coil on said line; and  
10 determining the presence of other path elements on said line.

1 34. The computer program product of claim 33 wherein said instructions to perform  
2 determining the presence of other path elements includes instructions to perform at least  
3 one of:

- 4 determining the presence of a splitter;
- 5 determining the presence of a filter; and
- 6 determining the presence of a termination.

1 35. The computer program product of claim 31 further comprising instructions for  
2 causing said test unit to predict the dependability of said line testing.

1 36. The computer program product of claim 31 further comprising instructions for  
2 causing said test unit to predict the coverage of said testing.

1 37. A method of predicting the data rate of a line for carrying signals between a near  
2 end a far end modem, comprising:

- 3 a) providing information that predicts data rate on a line for each of a
- 4 plurality of line models;
- 5 b) making measurements on the line and using the measurements to select
- 6 one of the plurality of line models to represent the line;
- 7 c) selecting the data rate from the information provided for the selected line
- 8 model.

1 38. The method of claim 37 wherein the provided information that predicts data rate  
2 includes rates for upstream and downstream data transmissions.

1 39. The method of claim 37 wherein the plurality of line models includes models of  
2 lines differing lengths.

1 40. The method of claim 37 wherein the plurality of line models include models of  
2 lines having bridge taps at differing locations.

1 41. The method of claim 37 wherein the step of providing information that predicts  
2 data rate on a line for each of a plurality of line models comprises:

- 3 a) providing sets of data, each data set providing information that predicts  
4 the data rate using a particular near end and far end modem, and  
5 b) selecting one of the data sets based on the pair of modems used on the  
6 line.

1 42. A method of predicting the data rate of a line under test within a cable bundle,  
2 comprising:

- 3 a) determining a model of noise on the line from a prediction of the number  
4 of disturbing signals that are carried within the cable bundle; and  
5 b) de-rating the performance of the line based on the noise model.

1 43. The method of claim 42 wherein the step of de-rating comprises:

- 2 a) measuring in advance performance of a plurality of model lines when a  
3 plurality of combinations of disturbing signals are present;  
4 b) measuring characteristics of the line under test and matching the line  
5 under test to one of the plurality of model lines;  
6 c) selecting one of the combinations of disturbing signals expected to be  
7 present in the cable bundle;  
8 d) predicting the data rate by selecting an advanced measurement that  
9 correlates with the matched line model and the selected combination of  
10 disturbing signals.